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Conceded

(b) causing the working status of at least one of the three areas to be displayed on a large-scaled display located in another area that is present in the factory, while updating the display as occasion demands;

wherein said large-scaled display is located at a specific position which allows each worker of the workforce to simultaneously recognize the display and the article on the worker's flow line.--

REMARKS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

After entry of the foregoing amendment, Claims 1-22 remain pending in the present application. Claims 1, 6, 9, 14 and 19-22 have been amended. Support for the amendment can be found at least on page 20, paragraphs 56-58. No new matter has been added.

By way of summary, the Official Action presents the following issues: Claims 19-21 stand rejected under 35 U.S.C. § 102 as lacking novelty over Kudo (U.S. Patent No. 6,343,238); Claims 1-13 and 18 stand rejected under 35 U.S.C. § 103 as being obvious over Kudo in view of Arita et al. (U.S. Patent No. 5,835,078, hereinafter Arita); and Claims 14-17 stand rejected over Kudo and Arita in further view of Uchida et al. (Japanese Publication No. 2001/0023376, hereinafter Uchida)

REJECTION UNDER 35 U.S.C. § 102

The Official Action has rejected Claims 19-21 under 35 U.S.C. § 102 as being unpatentable over Kudo. The Official Action states that Kudo discloses all of the claim limitations of the rejected claims. Applicants respectfully traverse the rejection.

Amended Claim 19 recites, *inter alia*, a method of managing either of production in a factory and distribution in a warehouse, including:

“... updating the display without delay in response to input of the storage-related instruction and the actual condition of storage from an input terminal, said large-scaled display is located at a specific position which allows each worker of the workforce to simultaneously recognize the display and the article on the worker's flow line in the predetermined storehouse.”

By way of background, dissemination of information among the workforce in real-time for enhancing productivity and promoting cooperation among members of the workforce or “team” is the focus of many mass production managers. Typically, such information is available through a computer interface at a workstation of a manager and/or assembly line worker. However, such piece meal information has not been heretofore provided in such a manner as to enable each member of the workforce to gauge their performance in real-time so as not to interfere with the overall production of the employee.

In light of the above deficiency in the art, the present invention is provided. With this object in mind, a brief comparison of the claimed invention in view of the cited references is believed to be in order.

Kudo discloses a system for providing information regarding production. A host computer (12) processes information provided thereto from a first input means (14). The input means provides information as to a quantity of materials received by a production stage of a mass production line, a quantity of materials remained unprocessed at a production stage of a mass production line for a production of a production lot, and a quantity of finished products shipped from a production stage of a mass production line for production of a production lot. A first output means (18) is provided for outputting the results of the host

computer.¹ As shown in Figure 3 of Kudo, information processed by the host computer is displayed at display (18) in histogram form such that it can be employed by a manager in charge of the management of a mass production line to ascertain the state of production.²

Conversely, an exemplary embodiment of the Applicants' invention as presently recited in Claim 9, as amended, provides a display system by which individual members of a production workforce can retrieve information seamlessly during production so as to gauge their performance for enhancing production and promoting cooperation among members of the workforce. As recited in Claim 19 as amended, the large-scaled display is located at a specific position which allows workers to simultaneously recognize the display and the articles on the flowline. Kudo does not disclose or suggest a display as presently recited in Claim 19 as amended. Claims 20-22 recite substantially the same limitation as discussed above.

Accordingly, Applicants respectfully request that the rejection of Claims 19-21 under 35 U.S.C. § 102 be withdrawn.

REJECTION UNDER 35 U.S.C. § 103

The Official Action has rejected Claims 1-13 and 18 under 35 U.S.C. § 103 as being obvious over Kudo in view of Arita. The Official Action states that Kudo discloses all of the Applicants' claim limitations with the exception of a large scale display. The Official Action cites Arita as disclosing this more detailed aspect of the Applicants' claims and states that it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of these two references to arrive at the Applicants' claimed invention. Applicants respectfully traverse the rejection.

¹ Kudo at column 7, line 56 through column 8, line 10; Figure 2.

Arita discloses an information presentation apparatus and information display apparatus. The apparatus includes a large screen display device (4) for displaying a plurality of individual CRT display device screens (6a-6g). The consolidated display of the CRT displays on the large screen enables an individual responsible to manage the entire plant to have a single source of information of a plurality of information types typically displayed on separate individual CRT displays.³

Arita does not disclose or suggest a large scale display which displays information pertaining to the production of each worker of a production workforce in real-time such that each worker of the workforce can seamlessly retrieve information from the display without interrupting production to judge his/her progress relative to others of the workforce. Further, the claims as amended recite the large-scaled display is located at a specific position which allows workers to simultaneously recognize the display and the articles on the flowline.

Thus, the present invention enables each worker to actually carry out the operation for storage or the operation for shipment while checking the instructions and the actual conditions with regard to storage or shipment. This enhances the efficiency of such operations. In the case where the actual conditions differ from the instructions, this arrangement advantageously enables a manager to readily find the difference.

In this way, when there is some delay in the work flow, the large-scaled display functions to inform each worker of the delay. This may serve as motivation to each worker so as not to cause a delay in the course of the operation, thus enhancing the working efficiency.

As discussed above, Kudo does not disclose or suggest all of the elements of the pending claims. Thus, Kudo, neither alone or in combination with Arita, can be properly

² Kudo at column 9, lines 4-12.

³ Arita at column 7, lines 10-18.

asserted as disclosing or suggesting Applicants' claim limitations as independently recited and/or by virtue of dependency. Therefore, the Official Action does not provide a *prima facie* case of obviousness with regard to any one of Claims 1-13 and 18. Accordingly, Applicants respectfully request the rejection of Claims 1-13 and 18 under 35 U.S.C. § 103 be withdrawn.

The Official Action has rejected Claims 14-17 under 35 U.S.C. § 103 as being obvious over Kudo and Arita in further view of Uchida. The Official Action states that Kudo and Arita disclose all the Applicants' claim limitations with the exception of a network for transmitting information. The Official Action cites Uchida as disclosing this more detailed aspect of the Applicants' invention and states that it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references to arrive at the Applicants' claimed invention. Applicants respectfully traverse the rejection.

As discussed above, neither Kudo nor Arita, alone or in combination, disclose or suggest all the elements of the pending claims. Further, Uchida does not disclose or suggest the features recited in the claims and outlined above, thus the combination of Kudo, Arita and Uchida cannot properly be asserted as disclosing or suggesting Applicants' Claim 14 which includes the above-distinguished limitations. Likewise, Claims 15-17 are allowable at least by their direct and/or indirect dependency upon Claim 14.

Accordingly, Applicants respectfully request that the rejection of Claims 14-17 under 35 U.S.C. § 103 be withdrawn.

CONCLUSION

Accordingly, in view of the foregoing amendment and remarks, it is respectfully submitted that the present application, including Claims 1-22, is patentably distinguished over the prior art, is in condition for allowance, and such action is respectfully requested at an early date.

Respectfully submitted,

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Marked-Up Copy
Serial No: 09/855,664
Amendment Filed on:
5-13-02

IN THE CLAIMS

--1. (Amended) A management system that manages either of production in a factory and distribution in a warehouse, said management system comprising:

an input terminal that inputs an instruction and an actual condition with regard to at least one of storage and shipment of an article in a predetermined storehouse as occasion demands;

a memory device that stores information regarding the input instruction and actual condition therein; and

a large-scaled display that displays the instruction and the actual condition stored in said storage device, thereby showing the instruction and the actual condition to a workforce in the predetermined storehouse without delay,

wherein said large-scaled display is located at a specific position which allows [workers] each worker of the workforce to simultaneously recognize the display and the article on the worker's flow line in the predetermined storehouse.

6. (Amended) A management system that manages production in a factory, wherein the factory includes a first section that manufactures products and a second section that supplies either of parts and materials used for the manufacture of the products, said management system comprising:
a first input terminal that inputs requirement for either of the parts and the materials in the first section as occasion demands;

a second input terminal that inputs delivery status with regard to the required parts or materials;

a memory device that stores the requirement and the delivery status therein; and

a large-scale display that shows the requirement and the delivery status stored in said memory device in at least one of the first section and the second section, thereby showing the requirement and the delivery status to [substantially anyone] a workforce in at least one of the first section and the second section without delay, said large-scaled display is located at a specific position which allows each worker of the workforce to simultaneously recognize the display and the article on the worker's flow line.

9. (Amended) A management system that manages production in a factory, said management system comprising:

an upstream process input terminal that inputs an actual condition of a specific upstream process in a production flow in the factory as occasion demands;

a shipment input terminal that inputs a shipping status of products as occasion demands;

a memory device that stores the input actual condition of the specific upstream process and the input shipping status; and

a large-scaled display that simultaneously shows the actual condition of the specific upstream process and the shipping status stored in said memory device in a management section that manages the production flow, thereby showing the actual condition to [substantially anyone] a workforce in the management section without delay, wherein said large-scaled display is located at a specific position which allows each worker of the workforce to simultaneously recognize the display and the article on the worker's flow line.

14. (Amended) A management system that manages production in a factory, wherein at least three areas including a product storage area where products are stored, an assembly area where the products are assembled, and a supply storage area where either of materials and parts to be supplied to the assembly area is stored, are arranged in the factory not to allow any one of the three areas to directly observe actual conditions of the others, and

each of the three areas has an input terminal that inputs a working status of the area and a large-scaled display that displays the working status in response to the input,

said management system further comprising:

a network that transmits information regarding the working status of one of the three areas to another specific area that is present in the factory; and

a large-scaled display that displays the transmitted information in the specific area to a workforce, said large-scaled display is located at a specific position which allows each worker of the workforce to simultaneously recognize the display and the article on the worker's flow line.

19. (Amended) A method of managing either of production in a factory and distribution in a warehouse, said managing method comprising the steps of:

causing a storage-relating instruction and an actual condition of storage to be displayed on a large-scaled display that is located at a specific position on a worker's flow line in a predetermined storehouse of an article, which allows the display and the article to be recognized simultaneously; and

updating the display without delay in response to input of the storage-relating instruction and the actual condition of storage from an input terminal;

wherein said large-scaled display is located at a specific position which allows each worker of the workforce to simultaneously recognize the display and the article on the worker's flow line in the predetermined storehouse.

20. (Amended) A method of managing production in a factory, said managing method comprising the steps of:

causing requirement regarding requirement for either of parts and materials used for manufacture of products and delivery status to be displayed on a large-scaled display; and

updating the display without delay in response to input of the requirement from an input terminal located in a production section and input of the delivery status from an input terminal located in a supply section that is in charge of supplying either of the parts and the materials;

wherein said large-scaled display is located at a specific position which allows each worker of the workforce to simultaneously recognize the display and the article on the worker's flow line.

21. (Amended) A method of managing production in a factory, said managing method comprising the steps of:

causing an actual condition of a specific upstream process in a production flow and a shipping status of products to be displayed on a large-scaled display that is located in a management section that manages the production flow in the factory; and

updating the display without delay in response to input of the actual condition of the specific upstream process from an input terminal located in a section corresponding to the specific upstream process and input of the shipping status from an input terminal located in a storehouse of the products;

wherein said large-scaled display is located at a specific position which allows each worker of the workforce to simultaneously recognize the display and the article on the worker's flow line.

22. (Amended) A method of managing production in a factory, wherein at least three areas including a product storage area where products are stored, an assembly area where the products are assembled, and a supply storage area where either of materials and parts to be supplied to the assembly area is stored, are arranged in the factory not to allow any one of the three areas to directly observe actual conditions of the others,

said managing method comprising the steps of:

(a) causing a working status of each of the three areas to be displayed on a large-scaled display located in the area, while updating the display as occasion demands; and

(b) causing the working status of at least one of the three areas to be displayed on a large-scaled display located in another area that is present in the factory, while updating the display as occasion demands;

wherein said large-scaled display is located at a specific position which allows each worker of the workforce to simultaneously recognize the display and the article on the worker's flow line.--